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EMOTIONS AND INSTINCTS

By HENRY C. LINK

For many years the instincts have been identified, to a greater or lesser extent, with the emotions. In 1880, G. H. Schneider¹ gave the first developed expression of this identity. James soon after suggested the co-ordination between instinct and emotion in two successive chapters under these titles.² But the most ambitious attempt to establish this identity is that made by W. McDougall, who even couples specific emotions with specific reactions.³ For example, he identifies the emotion of anger with the instinctive reactions of pugnacity, the emotion of fear with the instinct of flight, disgust with repulsion, wonder with the actions of curiosity, the tender emotion with the parental instinct, elation with self-asserting activities. He names other instincts and emotions such as gregariousness, the constructive instinct, and hunger; but these, he says, have no definite corresponding emotion.

The question which all of these views promote is the question as to the character of this identity. First of all, are the emotions and instinctive motor reactions identical in time? It is often stated that they are, and we are sometimes told that the emotions are but the subjective aspect of the instincts. However, the tendency is to regard either one or the other as prior. The James-Lange theory insisted upon the priority of the instinctive response and the subsequent presence of a characteristic emotion. James himself repudiated this view to a certain extent when he admitted that the perception of a total situation, and not a mere physical object, initiated both the emotion and the instinctive response.⁴ The extensive experiments of Sherrington, described especially with reference to their bearing upon the James-Lange theory, led him to assert as his theory that the bodily changes and the psychic

¹ G. H. Schneider, *Der thierische Wille*, 66, 96, 1 and 6 ff.

² *Principles of Psychology*, vol. ii.

³ *Social Psychology*, 45 ff.

⁴ W. James, "The Physical Basis of Emotion," *Psychological Review*, i, 1894, 523 ff.

factor or the emotion occur concomitantly.⁵ Sherrington also says that "of points where physiology and psychology touch, the place of one lies at emotion."⁶ Further experiments, made by W. C. Cannon, confirm this theory. Cannon says: "We do not feel sorry because we cry, as James contended, but we cry because when we are sorry or overjoyed or violently angry . . . there are nervous discharges by sympathetic channels to various viscera, including the lachrymal glands."⁷ That is, the two are simultaneous as far as time is concerned. In fact, it is difficult to see how one could be found to precede the other. In animals, for example, where, as Sherrington says,⁸ we have to infer the character of the emotions from the physical manifestations, it is impossible to say whether one or the other comes first. In ourselves it is impossible to decide because, when our attention is turned to the active side of emotion, we are only secondarily aware of the emotion itself; whereas, when we are most conscious of the emotion, we are only secondarily aware of its motor accompaniments.

Another way in which instincts and emotions are identified is by defining them both as dependent upon the same bodily mechanisms. Each emotion has its corresponding visceral and organic activities and characteristic bodily expression. This, in its most extreme form, is the view held by McDougall, who says: "In the case of the powerful instincts, the affective quality of each instinctive process, and the sum of visceral and bodily changes in which it expresses itself, are peculiar and distinct."⁹ However, the experiments of Sherrington and Cannon may be regarded as having disproved this theory. The view that the differentiated features of emotions are due to the viscera was discredited by Sherrington, when he demonstrated that emotional responses occur in dogs in which practically all the main viscera and the great bulk of skeletal muscles have been removed from subjection to and from influence upon the brain, by severance of the vagus and spinal cord. He admits that the visceral reactions strengthen the emotion; they are nevertheless of relatively small importance "as compared with the cerebral reverberations to which is adjunct the psychical component of emotional reaction."¹⁰ In support of this view, W. B. Cannon says: "The evidence which I

⁵ *Integrative Action of the Nervous System*, 258.

⁶ *Op. cit.*, 256.

⁷ W. B. Cannon, *Bodily Changes in Pain, Hunger, Fear, and Rage*, 280.

⁸ *Op. cit.*, 266.

⁹ *Social Psychology*, 46.

¹⁰ *Op. cit.*, 268.

have given above, as well as that which he (Sherrington) has offered, favors the conclusion that the viscera are relatively unimportant in an emotional complex, especially in contributing differential factors."¹¹ On the other hand, d'Allonnes¹² points out, very shrewdly, that Sherrington's experiments would upset the peripheral theory only if we could prove that animals actually experience the emotions whose signs they manifest. He himself takes the opposite view, basing his conclusions upon observations on a woman who, having lost her visceral sensibilities of pain, hunger, thirst, and fatigue, exhibited all the signs of anger, fear, chagrin, etc., but at the same time asserted that she did not feel any of these emotions. In this case, the proof hinges upon whether or not we can believe what the subject said.

From the above testimony it must be apparent that the physiological method with animals can never demonstrate what connection exists between emotions and bodily activities. In the first place, it begins with the assumption that certain acts express certain emotions, which in itself is a questionable assumption. In the second place, it concludes that, whenever the characteristic motor expressions are present, as for example the retreat of a dog as if frightened, the emotion is also present, and whenever these motor expressions are absent, the emotion is also absent. Goltz, for example, made experiments upon dogs which showed that when the vascular and visceral fields had been severed from connection with the head, the animal was still able to perceive objects and react to them with the characteristic motor responses of joy, fear, excitement, etc., while the dog whose cerebral hemispheres had been removed was able to respond only to the affective situations of pain and pleasure.¹³ What such experiments can prove at the most is that certain characteristic motor or organic reactions are dependent upon certain parts of the nervous or vasomotor system, but they cannot prove that those reactions are invariably connected with the emotions they are supposed to represent.¹⁴

Watson cuts through this difficulty by discarding, almost entirely, the traditional distinction between instinct and emotion. Instead of regarding emotion as the subjective or psychological aspect of instinct, he regards it simply as a slightly different type of motor response. "Emotion is an hereditary

¹¹ *Ibid.*, 283.

¹² G. Revault d'Allonnes, *Les inclinations, leur rôle dans la psychologie des sentiments*, 1908, 228 ff.

¹³ Sherrington, *op. cit.*, 263, 266.

¹⁴ *Op. cit.*, 266; E. B. Titchener, *Text Book of Psychology*, 481 ff.

'pattern-reaction' involving profound changes in the bodily mechanism as a whole, but particularly of the visceral and glandular systems."¹⁵ Whereas "instinct is an hereditary pattern-reaction, the separate elements of which are movements principally of the striped muscles."¹⁶ Without discussing the refinements of these definitions we easily see that they indicate a radically different conception of the whole subject of emotion and instinct. By defining instinct and emotion both as somewhat different but essentially similar objective phenomena, Watson avoids, for all practical purposes, the many confusions and philosophical speculations which have characterized the studies dominated by the James-Lange point of view. Whether the differentiation he makes will prove valuable is another question. At least we have here a statement which recognizes the futility of the traditional views and sets out on a track which has a fair chance of being proved or disproved objectively.

It seems likely that the attempt to define and classify emotions through introspection can never become more than purely conjectural. The endless variety of opinion which we find among psychologists as to the character and number of the emotions is eloquent testimony to the futility of this procedure. It is the very nature of emotion to connect itself with almost any objective expression whatsoever, and hence, from a subjective point of view, it is hopeless to try to establish even relatively invariable connections between definite reactions and emotions. The tendency for emotions to become more and more diffuse, and to be identified with an ever-increasing range of objects and interests, but confirms this statement. James, although he associated instinctive responses with emotions, clearly recognized this difficulty when he said: "In short, every classification of emotion is seen to be true and natural as any other, if it only serves some purpose; and such a question as 'what is the "real" or typical expression of anger or fear?' is seen to have no objective meaning at all."¹⁷

In spite of this obvious problem some psychologists have presented classifications of emotions and ascribed to them objective phenomena with a completeness and certainty which is certainly not warranted by the facts. McDougall, for instance, begins with a certain number of innate instinctive emotional dispositions, and upon these as a basis constructs the entire fabric of life as it is found today. "The instinctive impulses," he says, "determine the ends of all activities and supply the

¹⁵ *Psychology from the Standpoint of a Behaviorist*, 195.

¹⁶ *Op. cit.*, 231.

¹⁷ *Psychology*, 381. f.

driving power by which all mental activities are sustained; and all the complex intellectual apparatus of the most highly developed mind is but a means towards these ends, is but the instrument by which these impulses seek their satisfactions."¹⁸ McDougall enumerates a group of primary instincts, about seven in number, each of which he claims is differentiated by a distinct emotional core and a characteristic bodily activity.¹⁹ Upon these instincts, then, he proceeds to build the various institutions, customs, habits, and interests which characterize society. He traces to them the development of morals; of religion; of the higher sentiments of love, hate, and respect; of self-consciousness, volition, ideals; in short, of the whole range of life. A more thoroughgoing psychological rationalism it would be difficult to imagine. The very comprehensiveness of the scheme gives it an increased plausibility, for, having begun with the statement that the instincts are the factors which determine and sustain "all" the activities of life, he has not omitted to catalogue all those activities under some instinct or other.

In the first place, what is the principle by which McDougall distinguishes the primary emotions and instincts? "Each of the principal instincts," he says, "conditions some kind of emotional excitement whose quality is specific or peculiar to it; and the emotional excitement of specific quality that is the affective aspect of the operation of any one of the principal instincts may be called a primary emotion."²⁰ This principle, McDougall holds, is "of very great value when we seek to analyze the complex emotions into their primary constituents."²¹ However, this is merely a postulate or an arbitrary statement of what McDougall intends that an instinct-emotion shall mean. Whether such entities exist, and how we can distinguish them if they do exist, is still the problem. McDougall suggests two principles which he thinks will be of great help in picking out the primary instincts. The first is that "if a similar emotion and impulse are clearly displayed in the instinctive activities of the higher animals, that fact will afford a strong presumption that the emotion and impulse in question are primary and simple."²² The second principle of discovery is to inquire whether the emotions and instincts in question are subject to morbid hypertrophy or excitability.²³

¹⁸ *Op. cit.*, 33.

¹⁹ *Ibid.*, 45 ff.

²⁰ *Ibid.*, 47.

²¹ *Ibid.*, 47.

²² *Ibid.*, 49.

²³ *Ibid.*, 49.

With regard to the first of these criteria, the analysis presented above suggests the trend of our criticism. If, in the first place, we infer the presence and quality of emotions in animals by comparing their attitudes with our own, how can we legitimately infer the number and kind of our own primary emotions by referring them to the analogy which we have created? To create an object by introspection, and then to use it as an objective criterion by which to establish the primal quality of our own emotions, is indeed a vicious circle. Moreover, the claim that "in case of the powerful instincts, the affective quality of each instinctive process and the sum of visceral and bodily changes in which it expresses itself are peculiar and distinct"²⁴ is not borne out by the facts. Even if it were possible to take the higher animals and base a deduction of the emotions upon the instinctive activities which they manifest, it would still be impossible to draw this inference; for, as the above analysis shows, the motor reactions which characterize certain affective processes are dependent upon visceral disturbances in only a minor degree. As for the second criterion, it seems reasonable to think that if each instinctive emotion is a "relatively independent unity in the constitution of the mind," it would be liable to morbid hypertrophy or abnormal excitement. However, the forms of abnormality display as great a complexity as the forms of normal life, and hence do not offer that decisive individuality which the given definition of instinct would lead one to expect. And if it is difficult to connect typical acts with primary emotions in our own minds, and impossible to do more than conjecture the nature of the connection in animals, how much more difficult is it to connect the disarranged and abnormal activities of an abnormal person with any particular emotion? Psychiatry has succeeded in connecting ideas with ideas, events with events; but it has only partly suggested the exact nature of the connection between specific acts and specific emotions.

The choice of instinctive emotions which McDougall makes clearly bears out the above criticisms. For example, the gregarious instinct, according to McDougall, is not marked with an emotion "sufficiently intense or specific to have been given a name;"²⁵ nevertheless, he attributes to it the tremendous growth of cities and an immense range of social phenomena. The same may be said of the constructive instinct and the instinct of acquisition. Both of these are responsible, in McDougall's social structure, for a great deal, in spite of the fact that they are not marked by any specific emotion.

²⁴ *Ibid.*, 46.

²⁵ *Ibid.*, 86.

On the other hand, joy, which is thought to display itself in one of the most immediate and manifest responses in some of the higher animals,²⁶ is listed by McDougall among the sentiments. The instincts of subjection and elation which McDougall considers primary are obviously of a questionable character. They are so general that they may be interpreted into almost any situation. Finally, the principle which governs McDougall's choice of instincts is too susceptible to inversion. By that I mean that McDougall is more intent upon reading the facts back into instinct than upon reading the facts out of the instincts. Given a certain class of phenomena, he believes that there must be some instinct to account for it, and he never fails to find one appropriate. Strangely enough, McDougall severely criticizes this kind of procedure, giving as an example the statement made by V. Cousin as the fundamental assumption of his philosophy of history. This statement is as follows: "The various manifestations and phases of social life are all traced back to tendencies of human nature from which they spring, from five fundamental wants, each of which has corresponding to it a general idea. The idea of the useful gives rise to mathematical and physical science, industry and political economy; the idea of the just to civil society, the State, and jurisprudence; the idea of the beautiful to art; the idea of God to religion and worship; and the idea of truth in itself, in its highest degree and under its purest form, to philosophy. These ideas are argued to be simple and indecomposable, to co-exist in every mind, to constitute the whole foundation of humanity, and to follow in the order mentioned." McDougall then adds: "We have here the spectacle of a philosopher, who exerted a great influence on the thought of his own country, and who rightly conceived the relation of psychology to the social sciences, but who, in the absence of any adequate psychology, contents himself with concocting on the spur of the moment the most flimsy substitute for it in the form of these five assumptions."²⁷ McDougall's criticism is just. He himself has the advantage of a knowledge of comparative psychology, and hence has been able to identify man with the brute. This always creates a presumption in favor of the profundity of an analysis. However, as far as scientific coherence is concerned, McDougall's presentation may seem as fanciful to future psychologists as Cousin's statement does to present day philosophers. **The criticism which Titchener makes of McDougall's pro-**

²⁶ *Integrative Action of the Nervous System*, 265 f.

²⁷ *Op. cit.*, 12 f.

cedure is applicable here. He says that the list of instincts which McDougall presents is "a matter of individual preference rather than of scientific finality."²⁸ Titchener's criticism points out the root-fallacy in McDougall's work. The very nature of the situation is such as to make a scientific formulation of instinctive emotions impossible. And if it is impossible to distinguish the separate instincts and "driving" emotions, it is futile to attempt to trace to them the particular facts and values which now confront us. This is the more true because, as McDougall himself says,²⁹ the emotional centers, through their cognitive receptors, can come to enforce almost any particular motor expression or fact. Taking into consideration, therefore, the difficulties mentioned above, it is impossible to see to what practical result McDougall's list of instincts can lead. McDougall's confessed purpose is to make a contribution to the Social Sciences by analyzing the dynamic and determinative factors in human nature. However, he has left us with a mosaic of facts which are connected only in a schematic way. Beginning with a handful of supposedly specific, but in actuality hopelessly vague causes, he has left us with an infinitude of results, all obvious but all more or less irrelevant.

However, McDougall's analysis is admirable in its attempt to account for the dynamic nature of instinct by means of emotive forces. No matter what view is held about the number and kind of the emotions, the general opinion is that they are, as the word suggests, moving forces, "contributing not a little to the energy of behavior" (Morgan). Granting, for the time being, that there is a determinate number of instinct-emotions, and that they are the core around which all subsequent modifications and growth take place, we are led to ask: How, or by what principle, do these emotions combine to form the various purposes and values which we possess? How, in the event of a conflict between the various emotions, is the conflict resolved? Or, if the various emotions give rise to various values, all more or less independent, what will be the criterion of the 'relative' value of the desires which these emotions reinforce? McDougall states this problem and explains it by saying: "In the absence of sentiments our emotional life would be a mere chaos, without order, consistency, or continuity of any kind; and all our social relations and conduct, being based on the emotions and impulses, would be correspondingly chaotic, unpredictable, and unstable. It is

²⁸ *Textbook of Psychology*, 480.

²⁹ *Op. cit.*, 34 f.

only through the systematic organization of the emotional dispositions into sentiments that the volitional control of the immediate promptings of the emotions is rendered possible. Again, our judgment of values and of merit is rooted in our sentiments; and our moral principles have the same source, for they are formed by our judgments of moral values."³⁰ The problem which is vital to the discussion and which McDougall names only to ignore is this: How are the emotions organized into a system which shall thenceforth determine the manner in which those emotions shall express themselves? In answer to this question, we must say that in so far as McDougall regards the emotions as fixed and fundamental forces, he has made it impossible for them to create a principle by which they shall be subordinated. On the other hand, in so far as he admits that the instincts are subordinated and harmonized by some other force, or by other causes, he has introduced a principle which is in direct contradiction to his definition of the instincts.

The existence of some factors other than the particular emotions themselves, which determines how they shall express themselves, is generally recognized. It shows itself in the tendency, on the one hand, to analyze each emotion into elements more and more discrete and minute, namely, into sensation qualities; and, on the other hand, to reduce the separate emotions to two or three comprehensive emotions. All such explanations, whether they assume as fundamental a few general emotions, or analyze the general emotions into minute elements, show the same difficulty, namely, the impossibility of explaining the unity of the emotions in terms of units which, by definition, are discrete.

In pleasantness and unpleasantness, however, we have two factors which, in a sense, unify the various emotions by giving them a common character. All emotions are affectively characterized by pleasure or unpleasantness, and it is this common element which determines the direction of the emotion. It is often said that pleasure and unpleasantness serve to guide the emotions, rather than actively to direct or determine them. What it means to guide rather than to direct activity may be decided by those who insist that the man behind a flock of sheep is directing and driving the flock while the men on either side are merely guiding them. It is also very commonly held that pleasure and its opposite are merely signs indicating that the body is functioning normally or abnormally. This is to liken them to sign-posts or to static symbols between which

³⁰ *Social Psychology*, 159 f.

the emotions proceed upon their path. It is impossible to interpret the affective processes in this negative fashion without destroying their real significance. The reason, probably, why the affective aspect of consciousness has come to be regarded as merely a "guide" is because it is usually diffuse and is concomitant with almost every conscious state. This, however, is not a good reason for depriving feeling of its dynamic significance. If we regard the emotions as dynamic, we must also regard pleasure and unpleasantness as dynamic. In fact, it is quite likely that pleasure and unpleasantness are more fundamental than the emotions, and that not only genetically but actually. The experiments which Goltz performed on dogs, for example, showed that the most persistent and durable reactions were those induced by a stimulus calculated to produce pleasure or pain.³¹ Genetically, it is likely that the emotions were subsequent to the more general affective process of pleasure and unpleasantness. However, we must take one more step and ask: What determines the nature of the affective response, whether it be pleasurable or the opposite? Is it some single emotion? Hardly, because then the word as we have been using it would become meaningless. An emotion which determines all other emotions could certainly not be an emotion in the sense in which we have been using the word. The text-books answer this question by saying in several ways the same thing, namely, that when the organism is getting along well or functioning normally, the pleasurable state predominates; while, when the organism is getting along poorly, the unpleasant state predominates. But what does this imply? It implies that there is an organism which has a normal course, a positive and dynamic character of some kind, or possibly a purpose; and when this normal course, whatever it may be, is thwarted, displeasure ensues. When it proceeds normally, pleasure ensues. That is to say, no particular emotion and no particular feeling is the fundamental dynamic factor in life.

Conclusions

The classical concepts of emotion and instinct, represented in the controversies which center around the James-Lange theory, are a hindrance rather than a help to future studies in this field. By regarding emotion as a psychological phenomenon, and instincts as the bodily changes which characterize the emotion, it is made absolutely impossible to establish any causal identity, or even a schematic identity, between the two.

³¹*Integrative Action of the Nervous System*, 266.

Valuable objective studies, such as those of Goltz with dogs, are only made confusing by attempts to interpret into the bodily reactions the emotions which introspection has named. Therefore, the ambitious attempts on the part of some writers to identify instinctive responses with a group of emotions arbitrarily selected is open to serious criticism. And when the entire range of individual and social phenomena is attributed to such a group of uncertain causes, only the most fanciful and uncritical imagination can follow the process by which it is done. But even if we admit the validity of the assumption upon which such a superstructure rests, there is another logical difficulty which we encounter. If we assume, as does McDougall, that the emotions are the fundamental forces in the organism, and that these emotions are fixed in character, it becomes logically impossible to explain the process by which these conflicting forces are unified. How can independent forces give rise to a working principle or "sentiment" which is more powerful than the fundamental forces themselves? This difficulty is recognized in those views which seek to interpret all emotion in terms of the affective processes of pleasantness and unpleasantness. But the analysis of pleasantness and unpleasantness leads us again to the conclusion that even these affective processes derive their significance from some positive content of the organism itself, a content which the current theories of instinct and emotion have not yet exhausted. Whether or not we are able to give to this content any objective meaning is highly problematical. Our present purpose has rather been to point out certain contradictions and absurdities which characterize present thinking in this field, and particularly to call attention to the highly speculative character of the concoctions in which instinct-emotions are used as the prime ingredients.³²

³² Save for the paragraph on Watson's view, this paper was written some time before the appearance of Kantor's *A Functional Interpretation of Human Instincts* (*Psych. Rev.*, xxvii, 1920, 50ff.). With slight differences, the writer is in substantial accord with the conclusions reached by Kantor. Indeed, the similarity of the criticisms of McDougall is striking. Kantor, however, has succeeded the better in giving consistent expression to the functional point of view. The writer hopes soon to present his own conclusions in more comprehensive form.